

Name: _____

Remediation – Evaluating Variable Expressions

After you have watched the video from the wiki, you should try the following problems and then use the key to check your work. If you are successful on this worksheet, take the re-evaluation quiz. Be sure to follow the directions there.

Directions: Please evaluate the following variable expressions for the given value(s) of the variables. Show your work. Express non-integer answers as improper fractions.

1. $x - xy + x(x + y)$ $x = 2$ $y = -3$

$$\begin{aligned} & 2 - 2(-3) + 2(2 + (-3)) \\ & 2 + 6 + 2(-1) \\ & 2 + 6 - 2 \\ & \textcircled{6} \end{aligned}$$

2. $\frac{x - 2y^3}{x - xy}$ $x = 2$ $y = -5$

$$\begin{aligned} & \frac{2 - 2(-5)^3}{2 - 2(-5)} = \frac{2 + 250}{2 + 10} \\ & \frac{252}{12} = \textcircled{21} \end{aligned}$$

3. $-a - a^2 - a^3$ $a = 3$

$$\begin{aligned} & -3 - 3^2 - 3^3 \\ & -3 - 9 - 27 \\ & -12 - 27 \\ & \textcircled{-39} \end{aligned}$$

4. $-a - a^2 - a^3$ $a = -3$

$$\begin{aligned} & -(-3) - (-3)^2 - (-3)^3 \\ & 3 - 9 - (-27) \\ & -6 + 27 = \textcircled{21} \end{aligned}$$

5. $2x^2 - 5x - (x + 7)$ $x = \frac{1}{2}$

$$\begin{aligned} & 2\left(\frac{1}{2}\right)^2 - 5\left(\frac{1}{2}\right) - \left(\frac{1}{2} + 7\right) \\ & 2\left(\frac{1}{4}\right) - 5\left(\frac{1}{2}\right) - \left(\frac{1}{2} + 7\right) \\ & \frac{1}{2} - \frac{5}{2} - \frac{15}{2} \\ & \textcircled{-\frac{19}{2}} \end{aligned}$$

6. $4ab^2 - 3a^2b - 12$ $a = -5$ $b = -6$

$$\begin{aligned} & 4(-5)(-6)^2 - 3(-5)^2(-6) - 12 \\ & 4(-5)(36) - 3(25)(-6) - 12 \\ & -720 + 450 - 12 \\ & \textcircled{-282} \end{aligned}$$

7. $\frac{mn}{4n^2} - 3mn$ $m = -4$ $n = -1$

$$\begin{aligned} & \frac{-4(-1)}{4(-1)^2} - 3(-4)(-1) \\ & \frac{4}{4} - 12 \\ & 1 - 12 \\ & \textcircled{-11} \end{aligned}$$

8. $4\sqrt{xy^2} + |y - x|$ $x = 16$ $y = -3$

$$\begin{aligned} & 4\sqrt{(16)(-3)^2} + |-3 - 16| \\ & 4\sqrt{16(9)} + |-19| \\ & 4 \cdot 4 \cdot 3 + 19 \\ & 48 + 19 \\ & \textcircled{67} \end{aligned}$$